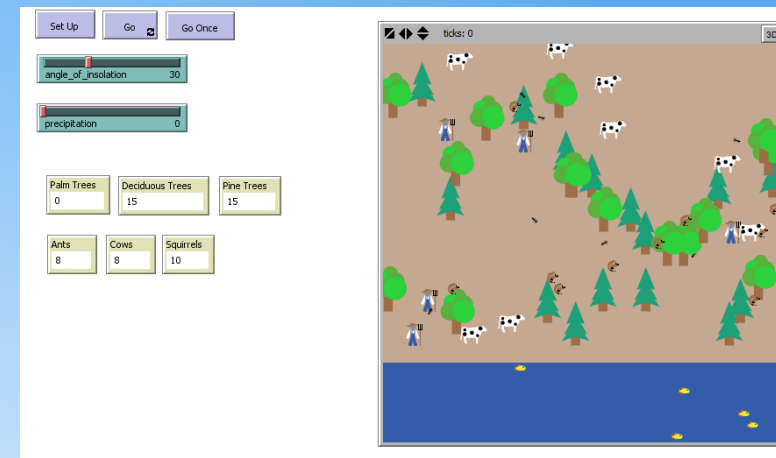


A world map showing insolation levels. The map uses a color gradient where blue represents higher insolation (tropical regions) and red represents lower insolation (polar regions). The colors transition from blue at the equator to red at the poles.

# INSOLATION AND ECOSYSTEM

By Maggie Allocco and Chris Haller

# Our Model:



- Model is a simulation of four different ecosystems that exist because of the sun's position and latitude.
- Each ecosystem features different plants and animals based on its angle of insolation (between 0 and 90). Angle can be adjusted via a slider.
- Precipitation can also be adjusted via a separate slider, to demonstrate how precipitation will effect the equilibrium of each ecosystem.
- A counter is used to keep track of how many of each kind of creature exists in each ecosystem.

# EARTH SCIENCE CONNECTIONS

## Standard 4:

1.1f: Earth's changing position in regards to the sun and moon causes variations in the heating of the Earth

2.1a: Earth systems have external and internal sources of heat

2.2a: Insolation heats the Earth's surface unequally based on a variety of factors

2.2c: A location's climate is influenced by latitude, and a number of other factors

## Standard 6:

Key Idea 2: Models and simplified representations of structures or systems used in science

Key Idea 6: Identifying patterns is important for making predictions about future behavior

# LIVING ENVIRONMENT CONNECTIONS

5.1a : energy comes from the sun, providing the foundation for the energy needs of living systems

6.1a: Energy flows through ecosystems in one direction, from the Sun, to photosynthesizers, to herbivores, to carnivores, etc....

6.1d: Survival of organisms in an ecosystem depend on environmental factors Such as light, temperature, soil type, etc....



# MATH CONNECTIONS

7.G.B.5: Using facts about supplementary or complementary angles in a problem to write and solve equations to determine an unknown angle

